



# EXECUTIVE SUMMARY OF THE 1995 HOSPITAL CHART REVIEW

## PERINATAL HEPATITIS B PREVENTION PROGRAM TEXAS DEPARTMENT OF HEALTH

November 1997

### Overview

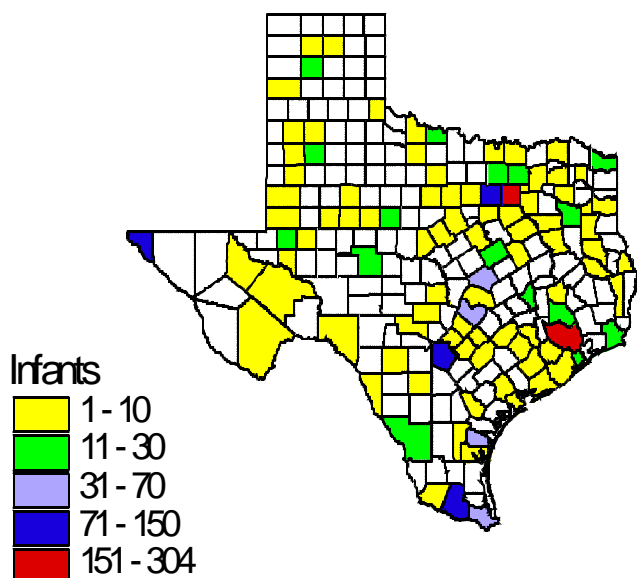
In 1994, the Centers for Disease Control and Prevention (CDC) directed the Texas Department of Health (TDH) perinatal hepatitis B prevention program to conduct a hospital chart review to assess statewide efforts in the screening of pregnant women for hepatitis B surface antigen (HBsAg). In addition, the review was to measure the percentage of infants receiving hepatitis B vaccine at birth.

The hospital chart review was conducted by TDH, in collaboration with regional and local health department personnel.

### Original sample:

A random sample of 1629 infants and their mothers was selected from 326,328 Texas birth certificates from 1995 (see Figure 1). The infants in the 1995 sample were born at 234 different hospitals located in 105 counties in Texas. This represents 81% of the total number of birthing hospitals in the state.

Figure 1: Map showing the distribution of the random sample for the 1995 hospital chart review



### Statewide results

Hospital charts were reviewed for 1579 (97%) mothers and 1549 (95%) infants in the study.

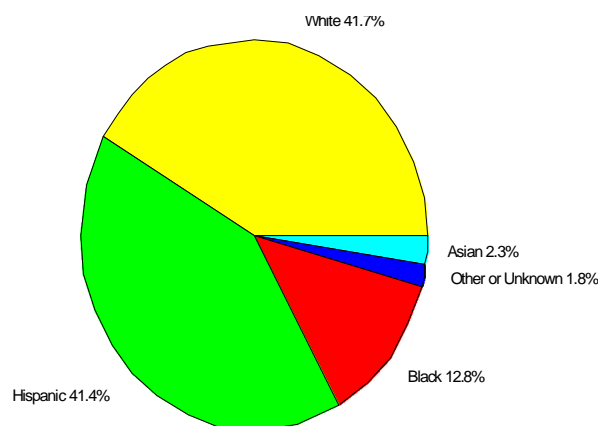
### Reasons for the exclusions from the original sample:

- hospital lost mothers and/or infants' charts
- hospital refused to participate in the review
- hospital went out of business
- non-hospital births
- infant was transferred to an acute care facility soon after birth
- infant deaths
- parent refused vaccine for infant

This study was designed to measure statewide efforts at HBsAg screening of pregnant women and hepatitis B vaccination of infants. Individual statistics for hospitals, counties and public health regions are not provided because adequate numbers of charts were not sampled at each of these levels. This report is a summary of the state data.

### Analysis of mothers' charts

Figure 2: Pie chart of maternal race (N=1579)



Of the 1579 maternal charts available for analysis, 1469 (93%) of the mothers received prenatal care in the United States. The majority of the mothers received prenatal care in the private sector (see table on prenatal care). Seven (<1%) of the mothers received prenatal care exclusively in Mexico. Of the 103 women that did not receive any prenatal care, 73 (71%) were Hispanic.

<b>Source of prenatal care</b>	<b>Number (%)</b>
Private sector only	1095 (75)
Public sector only	268 (18)
Both private and public sector	18 (1)
Unable to determine	88 (6)

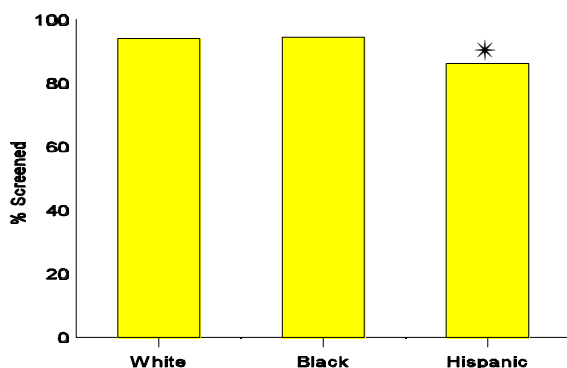
Of the 1579 maternal charts available for analysis, source of payment for medical care was recorded on 1536 (97%) charts (see table below).

<b>Source of payment for medical care</b>	<b>Number (%)</b>
Medicaid only	679 (43)
Non- Medicaid only	811(51)
Both Medicaid and Non-Medicaid	46 (3)
Unable to determine	43 (3)

Of the 1579 maternal charts available for analysis, 1435 (91%) of the mothers were screened for HBsAg (see table below). White and Black mothers were more likely to be screened for HBsAg than Hispanic mothers (see Figure 3). Mothers receiving prenatal care exclusively in the public sector had comparable HBsAg screening rates to mothers receiving care exclusively in the private sector [96%, (257/268) versus 93%, (1016/1095)]. In addition, Medicaid and non-Medicaid recipients had similar percentages of HBsAg screening [89%, (607/679) versus 92%, (748/811)].

<b>Time of HBsAg screen</b>	<b>Number (%)</b>
During prenatal period	1157 (81)
At delivery	164 (11)
Both prenatally and at delivery	92 (6)
Unable to determine	22 (2)

Figure 3: Maternal HBsAg screening by race



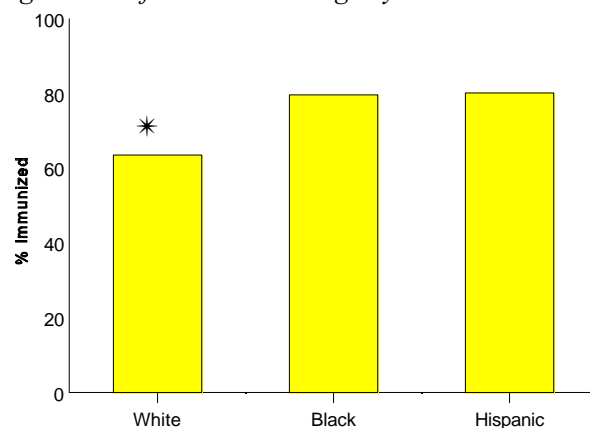
\* P<0.05 compared with Whites or Blacks.

Reviewers found 5 mothers in the sample who were HBsAg positive. The CDC estimated that there would be 5 HBsAg positive mothers in this review. Approximately 99% (N=1427) of mothers in this study were HBsAg negative and 3 mothers had HBsAg status recorded as “pending.”

#### *Analysis of infants charts*

Of 1549 infants charts reviewed, 1122 (72%) infants received the first dose of hepatitis B vaccine (HB1) before discharge from the hospital. Black and Hispanic infants were more likely to receive HB1 before discharge from the hospital than White infants (see Figure 4). In addition, infants born to Medicaid recipients were 50% more likely to receive HB1 than non-Medicaid recipients (P<0.05).

Figure 4: Infant HB1 coverage by race



\* P< 0.05 compared with Blacks or Hispanics.

Hepatitis B vaccine information statements (or consent forms) were located in 915 (82%) of vaccinated infants' charts. Lot numbers were recorded in 893 (80%) of these charts, dose was recorded in 917 (82%), while formulation was discernable from only 233 (21%) of the vaccinated infants' charts.

Although assessment of dose administered was difficult in this study (because complete recording procedures were not always used), reviewers found at least 10 infants, born to women of unknown HBsAg status, who received inappropriate doses of HB1. In 1991, the Advisory Committee on Immunization Practices (ACIP) recommended that infants born to women of unknown HBsAg status should receive 5 mcg of Recombivax HB® or 10 mcg of Engerix-B® at birth, while maternal HBsAg results are pending. Each of the 10 infants born to women of unknown HBsAg status in this study received 2.5 mcg of Recombivax HB® as their HB1 dose, and this was incorrect. However, 4 of the 5 infants born to HBsAg positive mothers received appropriate doses of HB1. Infants born to HBsAg positive mothers also received hepatitis B immune globulin as recommended by ACIP.

In 1994, Texas birth certificates were amended to include infant hepatitis B vaccination status. The HB1 information from the birth certificate is fed into Immtrac, the statewide immunization registry, and starts a vaccination record for each infant born in Texas. The 1995 hospital chart review found 89% agreement (1381 concordant pairs) between HB1 data from the infants' birth certificates and the infants' hospital charts. Discordant pairs (N=204 infants) can be explained as follows: 129 infants (8%) had receipt of HB1 recorded in the hospital chart but not on the birth certificate. Seventy-five infants (5%) had HB1 information recorded in the birth certificate, but reviewers could not verify receipt of HB1 in the infant's chart.

*Recommendations for future studies*

- Hospital cluster-based sample vs. birth certificate-based sample. This will provide valid statistics for feedback to individual hospitals.
- Over-sample Asian population since they are at high risk for hepatitis B disease.